Acknowledgements

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Since its inception, the BestPractices Steam program has been led by **Mr. Fred Hart** of DOE. **Dr. Anthony Wright** continues to direct the evolution of the program's technical content, notably including the development of software such as the Steam System Scoping Tool and the Steam System Assessment Tool. **Mr. Christopher Russell** of the Alliance to Save Energy conducts outreach on behalf of the program, making sure that program materials are properly distributed among state energy programs, utilities, trade associations, industry media, and the Internet. **Ms. Kristin Lohfeld** continues in this capacity as of March 2003. **Mr. Carlo LaPorta** of Future-Tec covers too many tasks to mention, and now is duly recognized.

Mr. Fred Fendt of Rohm & Haas now serves as Chair of the BestPractices Steam Steering Committee. **Ms. Debbie Bloom** of ONDEO-Nalco continues as Vice-Chair. These individuals participate on the BestPractices Steam Steering Committee:

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Introduction

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Fred Hart, U.S. Department of Energy
Dr. Anthony L. Wright, Oak Ridge National Laboratory

Why steam?

Steam—or more specifically the heat that steam provides—played a role in the production of virtually everything in the room around you. That includes the paper and ink in this document. It tempered the adhesives and fibers in wood-product desks and cabinets. Steam helped to manufacture your chair: plastics in the handles, foam cushioning in the seat, and the fabric covering as well as the pigments that color each of those items. Nuts, bolts, screws, and other metal fixtures were pre-heated with steam so that corrosion-retarding chemicals could be applied to them. The walls that surround you are probably made of either sheetrock or paneling, both of which were pressed from a steam-heated slurry of raw materials. Paints on your walls, pencils, and filing cabinets include polymers with a molecular structure that could only be assembled by high-temperature chemical reactions (again, facilitated by steam). The electric light by which you read was almost certainly produced by a steam turbine, fired by coal, natural gas, oil, or nuclear energy. And that bag of potato chips? The potatoes were "peeled" in a large, pressurized vat that accepted steam injection for 62 seconds, at which point the pressure was removed and the liquid content of the potatoes literally blew the skin off, leaving the potato whole.

That was only a short list of steam products.

Steam use in manufacturing can, and should, be part of any attempt by policy makers to address resource conservation, industrial competitiveness, energy market structure, and climate change. The following are facts that will substantiate[1] :

- Thirty-five percent of all fuel consumed by industry for energy purposes is devoted to raising steam.
- Fuels consumed by steam systems (industrial, commercial and institutional) are roughly nine quadrillion Btu, or about one tenth of national primary fuel demand for everything, including transportation.
- A one percent improvement in industrial energy efficiency—which is technically easy to accomplish—would return to energy markets a volume of fuel sufficient to satisfy the non-transportation energy needs of 3.2 million households.

BestPractices Steam is a U.S. DOE program that promotes steam efficiency. The program does not regulate or compel action on anyone's part. Instead, it simply identifies, documents, and communicates best-in-class steam management technologies and practices. These findings are made freely available in a series of reference documents, tip sheets, case studies, diagnostic software, and more—either printed or available for Internet download.

The articles in *Steam Digest 2002* represent a variety of operational, design, marketing, and program assessment observations. Readers are encouraged to also consult the 2000 and 2001 editions for additional reference. Please contact:

- U.S. DOE Office of Energy Efficiency & Renewable Energy Resource Room: (202) 586-2090;
- EERE Clearinghouse: clearinghouse@ee.doe.gov (800) 862-2086;
- http://www.oit.doe.gov/bestpractices/steam; or
- http://www.steamingahead.org.

[1] All data from U.S. DOE Energy Information Administration

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